

**REMARKS**

In response to the Final Office Action mailed November 18, 2003, the Applicant respectfully requests reconsideration.

**IN THE CLAIMS**

To further the prosecution of this application, amendments have been made in the claims, as illustrated in the above Listing of the Claims. Claims 1-20 were previously pending in this application. By this amendment, Applicant amends claims 1, 2, 9, 17 and 18. As a result, claims 1-20 are pending for examination, of which claims 1, 9, 14 and 17 are independent.

Applicant notes with appreciation the allowance of claims 5 and 6 if rewritten to include the limitation of claim 1.

**1. Telephone Interviews**

Applicant and Applicant's representatives appreciate the courtesy of Examiner Ly in conducting telephone interviews on October 2, 2003 and October 15, 2003 with Applicant's representative, Daniel P. McLoughlin. These telephone interviews addressed the rejections set forth in the Final Office Action mailed April 15, 2003, which are identical to the rejections in the November 18th Office Action. The substance of these telephone interviews is fully summarized herein.

During the October 2, 2003 telephone interviews, Applicant's representative and Examiner Ly agreed that claim 14 distinguishes over Okada, as is described in more detail below. Agreement was not reached, however, regarding claims 1, 9, and 19. In response, Applicant submitted proposed amendments to claim 1 via facsimile transmission on October 10, 2003. These proposed amendments were similar to the amendments made herein to claim 1.

During the telephone interviews on October 15, 2003, no agreement was reached regarding Applicant's proposed amendments to claim 1. Examiner Ly and Applicant's representative agreed that further amendments to claims 1, 9, and 19 should be submitted in writing as part of an amendment, as it may be easier to articulate Applicant's arguments in writing rather than by telephone interview. Accordingly, Applicant intended on filing an amendment before a next Office Action was issued; however, the November 18th Office Action

was issued before such amendment was filed. Accordingly, Applicant files this amendment in response to the November 18th Office Action.

## **2. Claims 1-8 Patentably Distinguish Applicant's Admitted Prior Art In View of Burdick**

Claim 1 stands rejected (Sections 3 and 9) under 35 U.S.C. §103(a) as purportedly being unpatentable over AAPA in view of US Patent No. 6,424,820 (Burdick). Applicant respectfully traverses this rejection for at least the following reasons.

### **2.1 Discussion of AAPA**

Applicant hereby incorporates by reference the discussion of the AAPA from Applicant's previous response submitted February 5, 2003. As described in Applicant's previous response, the AAPA contemplates the use of electromagnetic transponders (for example, electronic passes, pre-paid pass cards, etc.) where it may be desirable to guarantee that a transponder only operates within a predetermined distance in relation to a read/write terminal. More specifically, AAPA discloses operation of transponders in extreme proximity to the terminals, that is, a distance **smaller than 1 cm** separates the antenna of the transponder from the antenna of the read-write terminal (Applicant specification, page 3, lines 12-17).

The reason it may be desirable to guarantee that a transponder only operates within a predetermined distance, for example, smaller than 1 cm, is to prevent piracy, where a pirate is able to place a parasitic read terminal in the vicinity of an authorized terminal to intercept the information from the transponder. (Applicant's specification, page 3, lines 18-22).

### **2.2 Discussion of Burdick**

The discussion of Burdick from Applicant's previous response is hereby incorporated by reference. As discussed in Applicant's previous response, Burdick discusses short-range wireless communication systems, such as between a stereophonic unit and an air piece receiver. The distance between the receiver and transmitter antennas of the headset and the stereophonic unit, respectively, is on the order of **1-3 meters**. (Col. 6, lines 12-21).

As discussed during the October 2, 2003 telephone interviews, the 1-3 meter distance disclosed in Burdick is not a predefined distance used to size components of the stereophonic control unit and ear piece receivers disclosed by Burdick, but is merely a range of operation of the system disclosed by Burdick. (Col. 6, lines 15-27). In Burdick, the signal strength between the transmitter and the receiver falls off rapidly ( $1/r^6$ ) as a function of distance from the

transmitter. (Col. 7, lines 11-14). Examiner Ly contends that, because the signal strength rapidly decreases as a function of distance between the transmitter and responder antennas, it necessarily rapidly decreases after *any* predefined distance between the transmitter and transponder, including within the 1-3 meters of operation.

During the October 15, 2003 telephone interview, Applicant proposed amending claim 1 to make clear that the parallel oscillating circuit of the transponder are sized *based on the predefined value* (which represents a distance value) recited in claim 1. In response, Examiner Ly cited several portions of columns 39 and 40 of Burdick relating to optimally designing various parameters of the transmitter antenna of the Burdick system. (Col. 39, line 15-Col. 40, line 44). Applicant notes that Burdick discloses a variety of design options and optimizations for several components of its system throughout the entire specification. Specifically, Burdick discloses various distances, for example, the 1-3 meter operating range (Col. 6) and the  $1/r^6$  rate at which the signal power falls off between the transmitter and receiver (Col. 7), and discloses sizing and optimizing the design of components (Cols. 39 and 40). However, Burdick does not disclose or suggest sizing components of the transmitter or receiver based on a predefined distance so that the coupling coefficient between the transmitter and receiver rapidly decreases when a distance separating the transmitter and receiver becomes greater than the predetermined distance.

### 2.3 Combining AAPA and Burdick is Improper

As set forth in Applicant's previous response, the combination of Burdick and AAPA is improper because one skilled in the art at the time the invention was made would not have been motivated to combine the teaching of Burdick with the teaching of AAPA. As discussed above, AAPA describes guaranteeing that the transponder only operates within a predetermined distance, for example, a distance smaller than 1 cm, from a read-write terminal. This minimal distance prevents pirates from using a parasitic read terminal to intercept information transmitted from the transponder. In contrast, as described above, Burdick discloses an operating range of 1-3 meters. At such operating ranges, a pirate could intercept information with relative ease, thereby enhancing the piracy problem described in AAPA. Thus, one skilled in the art would not have been motivated to modify the teachings of AAPA with the teachings of Burdick as making such modification would exacerbate the piracy problem presented in the AAPA.

#### 2.4 The Combination of AAPA and Burdick

Even if combining AAPA and Burdick were proper, which it is not, such combination would not teach or suggest components of a parallel oscillator of a transponder being sized *based on a predefined distance* so that a coupling coefficient between respective oscillating circuits of an electromagnetic terminal and of a read-write transponder rapidly decreases when a distance separating the electromagnetic transponder from the read-write terminal becomes greater than the predetermined distance. AAPA is silent regarding sizing oscillator components of a read-write terminal or transponder based on such a predefined distance. Further, as discussed above, although Burdick discloses various distances between a transmitter and receiver antenna, and discloses sizing components of a transmitting antenna, Burdick fails to disclose sizing components of the transmitter or receiver *based on* the predefined distance described above. Therefore, the combination of AAPA and Burdick would not disclose or suggest sizing oscillation components of a transponder based on such a predetermined distance.

#### 2.5 Claim 1 Patentably Distinguishes Over The Combination of AAPA and Burdick

Even if combining AAPA and Burdick were proper, which it is not, claim 1 still distinguishes over such combination.

Claim 1 has been amended to further clarify the subject matter for which Applicant is believed to be entitled to patent protection. Support for this amendment can be found throughout pages 4-13 of the specification, and in Fig. 2. Claim 1 as amended recites an electromagnetic transponder including a parallel oscillating circuit adapted to being excited by a series oscillating circuit of a read/write terminal when the electromagnetic transponder enters the field of the read/write terminal, wherein components of the parallel oscillating circuit of the transponder are sized **based on a predetermined distance** so that a coupling coefficient between respective oscillating circuits of the electromagnetic read/write terminal and of the electromagnetic transponder rapidly decreases when a distance separating the electromagnetic transponder from the read/write terminal becomes greater than the predetermined distance.

Claim 1 patentably distinguishes over the combination of AAPA and Burdick because, as set forth above, such combination does not disclose or suggest an electromagnetic transponder including a parallel oscillating circuit wherein components of the parallel oscillating circuit are sized *based on a predetermined distance* so that a coupling coefficient between respecting

oscillating circuits of a read/write terminal and of the electromagnetic transponder decreases when a distance separating them becomes greater than the predefined distance.

Therefore, for at least the above reasons, claim 1 is not rendered obvious by AAPA in view of Burdick. Accordingly, Applicant respectfully requests that the rejection of claim 1 under section 103(a) as being unpatentable over AAPA in view of Burdick be withdrawn.

Claims 2-8, which each depend directly or indirectly from claim 1, are patentable over the art of record for at least the same reasons as claim 1. Accordingly, Applicant respectfully requests that the rejection of claims 2-8 be withdrawn.

### **3. Claims 9-13 Patentability Distinguish Over AAPA In View of Burdick**

Claim 9 stands rejected under 35 U.S.C. §103(a) as purportedly being unpatentable over AAPA in view of Burdick. Applicant respectfully traverses this rejection. As set forth above with respect to claim 1, combining AAPA and Burdick is improper. Further, even if combining these references were proper, claim 8 still distinguishes over such combination. Specifically, such combination does not teach or suggest a terminal for generating an electromagnetic field adapted to cooperate with at least one transponder when said transponder enters the electromagnetic field, including a series oscillating circuit for generating the electromagnetic field, the series oscillating circuit being sized **based on a predetermined distance** so that a coupling coefficient between the series oscillating circuit of the terminal and an oscillating circuit of the at least one transponder strongly decreases when a distance separating the at least one transponder from the terminal becomes greater than the predetermined distance, as recited in claim 9.

Therefore, for at least these reasons, claim 9 is not rendered obvious by AAPA in view of Burdick. Accordingly, Applicant respectfully requests that the rejection of claim 9 under section 103(a) as being unpatentable over AAPA in view of Burdick be withdrawn. Claims 10-13, which each depend from claim 9, are patentable over the art of record for at least the same reasons as claim 9. Accordingly, Applicant respectfully requests that the rejections of these claims be withdrawn.

#### **4. Claims 14-16 Patentably Distinguish Over Applicants' Admitted Prior Art in View of Okada**

Claim 14 stands rejected (Section 5) under 35 U.S.C. §103(a) as purportedly being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Japanese Patent No. 407245946 (Okada). Applicant respectfully traverses this rejection for at least the following reasons.

Combining the AAPA with the teaching of Okada is improper because there is no motivation for one skilled in the art to combine the teachings of the AAPA regarding a transponder and the teachings of Okada, which discloses a semiconductor switching element that generates an oscillating voltage. (Constitution, lines 1-6). Further, as agreed during one of the telephone interviews on October 2, 2003, even if the AAPA and Okada were combined, the combination would fail to disclose or suggest a transponder comprising an oscillating circuit adapted to be excited by an external electromagnetic field when the transponder enters the electromagnetic field, the oscillating circuit including an inductance, and **wherein a stray capacitance of the inductance acts as a capacitive element for the oscillating circuit**, as recited in claim 14. As agreed during one of the telephone interviews on October 2, 2003, Okada does not teach a stray capacitance of an inductance acting as a capacitive element of an oscillating circuit, but, in contrast, teaches a separate inductance and capacitance of a switching element. (Constitution, lines 5-9).

Therefore, for at least the above reasons, claim 14 is not rendered obvious by AAPA in view of Okada. Accordingly, Applicant respectfully requests that the rejection of claim 14 under §103(a) as being unpatentable over AAPA in view of Okada be withdrawn.

Claims 15 and 16, which each depend directly or indirectly from claim 14, are patentable over the art of record for at least the same reasons as claim 14. Accordingly, Applicant respectfully requests that the rejections of these claims under §103(a) be withdrawn.

#### **5. Claim 17-20 Patentably Distinguish Over AAPA In View of Burdick**

Claim 17 stands rejected under 35 U.S.C. §103(a) as purportedly being unpatentable over AAPA in view of Burdick. Applicant respectfully traverses this rejection. As set forth above with respect to claim 1, combining AAPA and Burdick is improper. Further, even if combining these references were proper, claim 17 still distinguishes over such combination. Specifically,

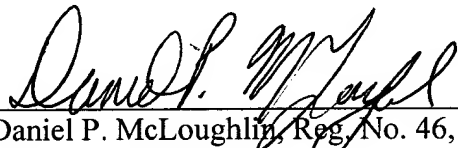
**CONCLUSION**

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted  
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such combination does not teach or suggest a system for data transfer comprising: a terminal including a series oscillating circuit having a first inductive element and a first capacitive element; and a transponder including a parallel oscillating circuit having a second inductive element and a second capacitive element; wherein the first and second inductive elements and first and second capacitive elements **are sized based on a predetermined distance** such that a coupling coefficient between the series oscillating circuit and the parallel oscillating circuit decreases rapidly when a distance between the terminal and the transponder is greater than the predetermined distance, as recited in claim 17.

Therefore, for at least the above reasons, claim 17 is not rendered obvious by AAPA in view of Burdick. Accordingly the Applicant respectfully requests that the rejection of claim 17 under section 103(a) as being unpatentable over AAPA in view of Burdick be withdrawn.

Claims 18-20 which each depend from claim 17, are patentable over the art of record for at least the same reasons as claim 17. Accordingly Applicant respectfully requests the rejection of claim 17 be withdrawn.